

*Draft - July 2001*

**DRAFT ECONOMIC ANALYSIS  
OF CRITICAL HABITAT DESIGNATION  
FOR THE SCOTTS VALLEY SPINEFLOWER AND THE  
SCOTTS VALLEY POLYGONUM**

July 2001

*Draft - July 2001*

Prepared for:

Division of Economics  
U.S. Fish and Wildlife Service  
4401 N. Fairfax Drive  
Arlington, VA 22203

Prepared by:

Industrial Economics, Incorporated  
2067 Massachusetts Avenue  
Cambridge, Massachusetts 02140

Send comments on the economic analysis to:

Field Supervisor  
U.S. Fish and Wildlife Service  
Ventura Fish and Wildlife Service  
2493 Portola Road, Suite B  
Ventura, CA 93003

## PREFACE

1. On May 11, 2001, the U.S. Court of Appeals for the Tenth Circuit issued a ruling that addressed the analytical approach used by the Service to estimate the economic impacts associated with the critical habitat designation for the southwestern willow flycatcher.<sup>1</sup> Specifically, the court rejected the approach used by the Service to define and characterize baseline conditions.<sup>2</sup> Defining the baseline is a critical step within an economic analysis, as the baseline in turn identifies the type and magnitude of incremental impacts that are attributed to the policy or change under scrutiny. In the flycatcher analysis, the Service defined baseline conditions to include the effects associated with the listing of the flycatcher and, as is typical of many regulatory analyses, proceeded to present only the incremental effects of the rule.
2. The court's decision, in part, reflects the uniqueness of many of the more recent critical habitat rulemakings. Specifically, the flycatcher was initially listed by the Service as an endangered species in 1995, several years prior to designating critical habitat. Once a species has been officially listed as endangered under the Act, it is afforded special protection under Federal law. In particular, it is illegal for any one to "take" a protected species once it is listed. Take is defined to mean harass, harm pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Implementing regulations promulgated by the Service further define "harm" to mean "... an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."<sup>3</sup>
3. Because the southwestern willow flycatcher was initially listed as endangered by the Service in 1995, several years before the designation of critical habitat, the flycatcher, along with its habitat,

---

<sup>1</sup> New Mexico Cattle Growers Association, et al. v. U.S. Fish and Wildlife Service, No. 00-2050, U.S. Court of Appeals, Tenth Circuit, May 11, 2001.

<sup>2</sup> In a previous case, Middle Rio Grande Conservancy District v. Bruce Babbitt, No. CIV 99-870, 99-872, and 99-1445M/RLP (consolidated), U.S. District Court for the District of New Mexico, the court similarly questioned the approach used by the Service to identify the economic effects of designating critical habitat for the Rio Grande silvery minnow. Although the court openly questioned the definition used by the Service to establish the baseline of the economic analysis, the court did not expressly rule on this approach as it set aside the rule for other reasons.

<sup>3</sup> 50 CFR 17.3. The Service's definition of harm to include significant habitat modification was later confirmed by the U.S. Supreme Court (*Sweet Home Chapter of Communities for a Great Oregon v. Babbitt*, 1F3d 1 (D.C. Cir. 1993)).

already received considerable protection before the designation of critical habitat in 1997.<sup>4</sup> As a result, the economic analysis concluded that the resulting impacts of the designation would be insignificant.<sup>5</sup> This conclusion was based on the facts that: (1) the designation of critical habitat only requires the Federal government to consider whether their actions could adversely modify critical habitat; and (2) the Federal government already was required to ensure that its actions did not jeopardize the flycatcher.

4. For a Federal action to adversely modify critical habitat the action would have to adversely affect the critical habitat's constituent elements or their management in a manner likely to appreciably diminish or preclude the role of that habitat in both the survival and recovery of the species.<sup>6</sup> However, the Service defines jeopardy, which was a pre-existing condition prior to the designation of critical habitat, as to "engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."<sup>7</sup> The "survival and recovery" standard is used in the definition of both terms and as a result, the additional protection afforded the flycatcher due to the designation of critical habitat was determined to be negligible.
5. The court, however, considered why Congress would require an economic analysis performed by the Service when making a decision about designating critical habitat if in fact the designation of critical habitat adds no significant additional protection to a listed species. In the court's mind, "(b)ecause (the) economic analysis done using the FWS's baseline model is rendered essentially without meaning by 50 CFR 402.02, we conclude Congress intended that the FWS conduct a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes."<sup>8</sup>
6. Even though the court's ruling applies only to the designation of critical habitat for the southwestern willow flycatcher, this analysis attempts to comply with the court's instructions by

---

<sup>4</sup> See 60 FR 10694 and 62 FR 39129.

<sup>5</sup> *Economic Analysis of Critical Habitat Designation for the Southwestern Willow Flycatcher*, Division of Economics, U.S. Fish and Wildlife Service, June 1997.

<sup>6</sup> *Consultation Handbook*, U.S. Fish and Wildlife Service, March 1998, p. 4-39.

<sup>7</sup> 50 CFR 402.02.

<sup>8</sup> 50 CFR 402.02 defines the terms used by the Service in implementing sections 7(a)-(d) [16 U.S.C. 1536(a)-(d)] of the Endangered Species Act of 1973, as amended. The regulatory definitions for the terms "jeopardy" and "adverse modification" can be found in this section.

revising the level of detail in the description of baseline conditions within the areas of proposed critical habitat. Specifically, this analysis quantifies, to the extent possible, the effects of section 7 in its entirety on current and planned activities that are reasonably expected to occur in the near future within proposed critical habitat. Subsequently, the analysis identifies whether these effects are associated with the jeopardy provisions of section 7 or the critical habitat provisions of that section. The approach to baseline definition employed in this analysis is consistent with that of previous analyses, in that the goal is to understand the *incremental* effects of a designation. Typical economic analyses concentrate mostly on identifying and measuring, to the extent feasible, economic effects most likely to occur because of the action being considered. Baseline conditions, while identified and discussed, are rarely characterized or measured in any detailed manner because by definition, these conditions remain unaffected by the outcome of the decision being contemplated.

7. In sum, while the goal of this analysis remains the same as previous critical habitat economic analyses (i.e., to identify and measure the estimated incremental effects of the proposed rulemaking), the implementation has been altered such that information on baseline conditions is more detailed than that presented in previous studies.

## 1. INTRODUCTION AND BACKGROUND

8. In January 2001, the U.S. Fish and Wildlife Service (the Service) proposed designation of critical habitat for two plant species near the coast of Northern California: The Scotts Valley spineflower (*Chorizanthe robusta* var *hartwegii*, hereafter "spineflower"), and the Scotts Valley polygonum (*Polygonum hickmanii*, hereafter "polygonum"). The purpose of this report is to identify and analyze potential economic impacts that could result from this designation. This report was prepared by Industrial Economics, Incorporated (IEc), under contract to the U.S. Fish and Wildlife Service's Division of Economics.
9. Section 4(b)(2) of the Endangered Species Act (the Act) requires the Service to base final designation of critical habitat upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying a particular area as critical habitat. The Service may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided that the exclusion will not result in extinction of the species.
10. Under the listing of a species, section 7(a)(2) of the Act requires Federal agencies to consult with the Service in order to ensure that activities they fund, authorize, or carry out are not likely to jeopardize the continued existence of the species. The Act defines jeopardy as any action that would appreciably reduce the likelihood of both the survival and recovery of the species. For designated critical habitat, section 7(a)(2) also requires Federal agencies to consult with the Service to ensure that activities they fund, authorize, or carry out do not result in destruction or adverse modification of critical habitat. Adverse modification of critical habitat is defined as any direct or indirect alteration that appreciably diminishes the value of critical habitat for the survival and recovery of the species.
11. If the Service finds, in a biological opinion, that a proposed action is likely to adversely modify the critical habitat of the species, it provides the agency with reasonable and prudent alternatives to avoid adverse modification. Regulations (50 CFR §402.02) implementing section 7 of the Act define reasonable and prudent alternatives as alternative actions, identified during formal consultation, that: (1) can be implemented in a manner consistent with the intended purpose of the action; (2) can be implemented consistent with the scope of the action agency's legal authority and jurisdiction; (3) are economically and technologically feasible; and (4) would, the Service believes, avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat. If no reasonable and prudent alternatives are available, the Service will notify the agency and provide an explanation of that conclusion. The agency may choose to implement the reasonable and prudent alternative, proceed with the action as proposed at the risk of violating the Act, revise its proposed action, or apply for an exemption from the Act.

12. The entire proposed critical habitat designation for polygonum and spineflower exists on private land. This analysis assesses how critical habitat designation for the spineflower and the polygonum may affect current and planned land uses and activities on these lands. Private lands that are designated as critical habitat are subject to consultations under section 7 of the Act only when a Federal nexus, or connection, exists. A Federal nexus arises if the activity or land use of concern involves Federal permits, Federal funding, or another form of Federal involvement. Activities on private land that do not involve a Federal nexus are not affected by critical habitat designation.
13. To be considered in the economic analysis, activities must be "reasonably foreseeable," i.e., activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. This report considers current and future activities that are likely to occur within proposed critical habitat over the next ten years and could potentially result in new or reinitiated section 7 consultations or modifications. A ten-year time horizon is used, because many landowners and managers do not have specific plans for projects beyond ten years. In addition, the predictions of future economic activity in this report are based on current socioeconomic trends and the current state of technology, both of which are likely to change in the long term.

#### **1.1 Description of Species and Habitat**

14. Both the spineflower and polygonum are in the buckwheat family (*Polygonaceae*). The habitat of both the polygonum and spineflower consists of dry sandy soils and can be found both along the coast and inland. The species are found in "clusters" (i.e., colonies) of individual plants. The general location of a colony, which includes areas of occupied and unoccupied habitat, is referred to as a "unit."

##### **Scotts Valley Spineflower**

15. Scotts Valley spineflower is a low-growing herb with aggregate flowers that are medium in size.<sup>9</sup> The plant germinates during the winter months and flowers from April through June. Seed dispersal is facilitated by spines that attach the seed to passing animals. Scotts Valley spineflower is one of two varieties of the species *Chorizanthe robusta*. The other variety is known as the Robust spineflower (*Chorizanthe robusta* var. *robusta*), which is found from the coast of Southern Santa Cruz and Northern Monterey counties and is Federally listed as endangered.

---

<sup>9</sup> Habitat information for the Scotts Valley polygonum and Scotts Valley spineflower is taken from the Federal Register published February 15, 2001 (66 FR 10469), titled "Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for *Polygonum hickmanii* (Scotts Valley polygonum) and *Chorizanthe robusta* var. *hartwegii* (Scotts Valley Spineflower)."

16. Habitat for both species generally includes gently sloping to nearly level fine-textured shallow soils over outcrops of Santa Cruz mudstone and Purisima sandstone. Both spineflower and polygonum occur with other small annual herbs in patches within a more extensive annual grassland habitat. These small patches have been referred to as “wildflower fields” because they support a large number of native herbs, in contrast to the adjacent annual grasslands that support a greater number of non-native grasses and herbs.
17. The primary constituent elements for spineflower and polygonum are identical and include:
- Thin soils that have developed over outcrops of Santa Cruz mudstone and Purisima sandstone;
  - “Wildflower field” habitat that has developed on these thin-soiled sites;
  - A grassland plant community that supports the “wildflower field” habitat, that is stable over time, and in which nonnative species do not exist or are at a density that has little or no adverse effect on resources available for growth and reproduction of polygonum and spineflower;
  - Sites that are of sufficient size to maintain ecosystem functions and processes, such as pollinator activity between existing colonies of polygonum and spineflower and seed dispersal mechanisms between existing colonies and other potentially suitable sites; and
  - Sufficient integrity of the watershed above habitat for polygonum and spineflower to maintain edaphic and hydrologic conditions that provide the seasonally wet substrate for growth and reproduction of polygonum and spineflower.

### **Scotts Valley Polygonum**

18. Scotts Valley polygonum is a taprooted annual in the buckwheat family that is endemic to Purisima sandstone and Santa Cruz mudstone in the Santa Cruz Mountains. It grows from 1 to 2 inches tall, and flowers from late May to August. Seed production ranges from a few dozen seeds in a typical individual to as many as two hundred in a particularly robust individual. Primary constituent elements for polygonum are identical to those identified for spineflower (see above).

### **1.2 Proposed Critical Habitat**

19. The proposed critical habitat designation for these two plant species is comprised of four parcels of private land, encompassing approximately 310 acres in Santa Cruz County, within the City of Scotts Valley. The two proposed units support, in total, approximately 11 colonies of these species.



- **Unit 1, Glenwood.** In Northern Scotts Valley, the Glenwood unit contains five colonies of polygonum and a number of colonies of spineflower. Both plants are found in colonies that are scattered throughout the site, which is located west of Highway 17 and is bisected by Glenwood Drive. Management and ownership of the approximately 222-acre unit is currently split among three landowners: the Scotts Valley High School District, the Salvation Army, and American Dream/Glenwood L.P. (a housing developer).
- **Unit 2, Polo Ranch.** Also in Northern Scotts Valley, the 86-acre Polo Ranch unit is located east of Highway 17, approximately one mile from the Salvation Army colonies. The entire unit is currently owned by Greystone Homes and contains six colonies of polygonum and a larger number of spineflower colonies. Both species are found across the Polo Ranch parcel in clusters, rather than in a continuous or consistently occupied manner.

20. The Service believes that the spineflower and polygonum are together currently growing on less than one acre of land across both units of the proposed critical habitat; dormant seedbanks may also persist on parts of these units. Although a large part of the proposed critical habitat is not currently known to support populations of either species, the Service finds it necessary to propose critical habitat across both units. Those areas within the proposed designation that are unoccupied by the species but possess the primary constituent elements have been proposed for critical habitat designation because they are essential for the discovery or establishment of new populations, the continued growth of current populations, the expression of dormant seedbanks, and the recovery of the species as a whole. Due to the limitations of mapping, some lands have been included within the boundaries of the proposed critical habitat that are not occupied by either species and do not possess the primary constituent elements. These lands will not be subject to any additional consultations beyond those that would be required under the listing of the Scotts Valley spineflower or the candidate status of the Scotts Valley polygonum. Nevertheless, critical habitat designation on these lands could result in costs associated with an increase in the amount of technical assistance offered by the Service to private landowners. Technical assistance costs represent the estimated economic costs of informational exchanges between landowners or managers and the Service regarding the designation of critical habitat for the spineflower and the polygonum. Most likely, such exchanges would consist of phone conversations or correspondences between municipal or private property owners and the Service regarding lands designated as critical habitat or lands adjacent to critical habitat. Costs associated with these informational exchanges include the opportunity cost of time spent in conversation or in preparing correspondence for the private property owner, as well as staff costs for the Service.

### **1.3 Recovery Plan**

21. A Recovery Plan identifying the actions needed for recovery of both plant species was published in September 1998.<sup>10</sup> The Glenwood and Polo Ranch parcels were identified as the only parcels supporting spineflower and polygonum.<sup>11</sup> The plan identified urban development, including the proposals by Glenwood Homes (later named American Dream/Glenwood L.P.) and Greystone Homes, as the primary threat to the survival and recovery of both spineflower and polygonum.
22. In the Recovery Plan, the Service identified the priority level for spineflower recovery efforts as "3C" indicating a high degree of threat and a high potential for recovery. The 3C rating is the third highest category out of 18 priority levels established for Federally listed species. A recovery level for polygonum is not indicated in the Recovery Plan since the species was not Federally listed at the time the plan was published.
23. The Recovery Plan identified the "protection through acquisition of habitat or establishment of conservation easements" as important conservation efforts to provide for the protection of the two species. Referring to development proposals on both the Glenwood and Polo Ranch parcels in 1998, the Plan asserts that, "The long-term viability of Scotts Valley spineflower and Scotts Valley polygonum will be jeopardized if all...projects are completed without significant conservation measures for the plants."

#### **1.4 Relevant Baseline Regulations**

24. The Scotts Valley spineflower is afforded significant baseline protection due to its listed status under the Federal Endangered Species Act. As noted above, this protection includes the provision for a section 7 consultation between the Service and any Federal agency that authorizes a project that may jeopardize the survival of the species.

---

<sup>10</sup> "Recovery Plan for Insect and Plant Taxa from the Santa Cruz Mountains in California," Ventura U.S. Fish and Wildlife Service Office. Signed September 28, 1998.

<sup>11</sup> The Scotts Valley polygonum was identified as a "species of concern" by the Service and, at the time of publication of the Recovery Plan, was being considered for Federal listing. The plan concluded, however, that since polygonum's habitat overlapped with the Federally listed Scotts Valley spineflower, the conservation recommendations were similar for both species. Since publication of the Recovery Plan, polygonum was proposed for listing as endangered in the Federal Register on November 9, 2000 (65 FR 67335) titled, "*Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Polygonum hickmanii (Scotts Valley polygonum)*." Final status of the proposal has not been determined.

25. The Scotts Valley polygonum receives less protection in the baseline (i.e., absent critical habitat) than the spineflower due its status as a candidate species.<sup>12</sup> Federal agencies that authorize projects which may impact a proposed species must decide whether or not they wish to include the proposed species in a formal consultation. If the Federal agency chooses not to consider impacts to proposed species in a formal section 7 consultation, they may choose instead to confer with the Service.
26. This analysis assumes that a baseline scenario for a candidate species such as the Scotts Valley polygonum would not have included a section 7 consultation. It assumes, instead, that in the absence of critical habitat, Federal agencies authorizing projects that may impact the polygonum would have addressed those impacts through a conference with the Service.<sup>13</sup>
27. This report concludes that section 7 consultations covering the candidate polygonum (and the listed spineflower) are likely to occur on both of the proposed critical habitat units. Our estimates of the economic impacts of critical habitat designation for polygonum (and spineflower) are based on historical section 7 consultations covering listed plant species rather than on conferences covering candidate species. Economic impacts associated with historical section 7 consultations covering listed plant species are used as an estimate for the projected economic impacts of the critical habitat designation, because they are more relevant and applicable than information pertaining to past "conferences" over candidate species.
28. The State of California maintains environmental regulations which affect the units proposed as critical habitat for spineflower and polygonum. The California Environmental Quality Act (CEQA) requires the identification of significant environmental effects of proposed projects that have the potential to harm the environment. The lead agency (typically the California State agency in charge of the oversight of a project) must determine whether a proposed project would have a "significant" effect on the environment. Section 15065 of Article 5 of the CEQA regulations states that a finding of significance is mandatory if the project will "substantially reduce the habitat of a

---

<sup>12</sup> The polygonum was proposed for listing as endangered on November 9, 2000, but final status of the proposal has not been determined (see footnote 4). A "conference" over possible impacts to a *proposed* species is at the request of the Federal agency. It is not required based on a determination of "likely to jeopardize" as is the case with *listed* species covered in section 7 consultations. Therefore, baseline protection for candidate species is less stringent than that provided for listed species.

<sup>13</sup> The Service asserts that one possible outcome for the final critical habitat designation for both spineflower and polygonum is to finalize the proposed listing of polygonum in a separate action, which is permissible for certain purposes under the current moratorium, prior to finalizing the critical habitat designation (Personal Communication, Wildlife Biologist, U.S. Fish and Wildlife Service, April 19, 2001).

fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory." If the lead agency finds a project will cause significant impacts, the landowners must prepare a Environmental Impact Report (EIR).<sup>14</sup> Any economic impacts identified by the EIR process are due to the presence of a particular species on the project land, regardless of whether it is designated critical habitat. Review of the CEQA statute and conversations with the California Resources Agency (one of the agencies responsible for administering CEQA) revealed that when a species is known to occupy a parcel of land, the designation of critical habitat alone does not require a lead agency to pursue any incremental actions.<sup>15</sup> However, in the case of the spineflower and polygonum, the designation of proposed critical habitat includes lands that do not currently support the species. Thus, critical habitat designation may increase the knowledge about the range of the two plant species for project developers and Federal agencies and may result in some incremental activities and economic costs associated with CEQA (see "Economic Impacts" section below).

29. In addition, the U.S. Environmental Protection Agency (EPA) reviews Federally-funded development projects that occur in and around the City of Scotts Valley. The City of Scotts Valley is located within the Santa Margarita Aquifer, identified by EPA as a Federally designated sole-source aquifer (SSA).<sup>16</sup> The designation provides EPA limited review authority over development projects that are (1) located within the designated aquifer and (2) receive Federal financial assistance. Federal financial assistance is generally interpreted to mean Federal grants, or Federal loan guarantees, but does not include Federal permits or other non-financial Federal authorization. EPA has the authority to require modifications to projects that have the potential to contaminate a SSA, or Federal funding can be denied.<sup>17</sup> Although both units proposed for critical habitat for spineflower and polygonum are within the Santa Margarita Aquifer, EPA's Region 9 has not reviewed or

---

<sup>14</sup> California Resources Agency, "Summary and Overview of the California Environmental Quality Act", November 12, 1998, [http://ceres.ca.gov/topic/env\\_law/ceqa/summary.html](http://ceres.ca.gov/topic/env_law/ceqa/summary.html), August 23, 2000.

<sup>15</sup> Personal communication, California Resources Agency Office, September 11, 2000.

<sup>16</sup> See EPA Office of Ground Water and Drinking Water, Region IX website for information on the Santa Margarita Aquifer, Scotts Valley, which was designated January 14, 1985 (<http://www.epa.gov/safewater/swp/ssa/reg9.html>).

<sup>17</sup> "Fact Sheet: The EPA's Sole Source Aquifer Program." Facsimile Communication, EPA Region IX, April 6, 2001.

modified any similar development projects within the last three years.<sup>18</sup> As such, this analysis assumes it is unlikely that EPA's limited review authority over Federally-funded development projects in the Santa Margarita Aquifer will provide any significant baseline protection for either spineflower or polygonum.

## **1.5 Socioeconomic Profile of Proposed Critical Habitat Areas**

30. Proposed critical habitat for spineflower and polygonum in Santa Cruz County covers the northern portion of the City of Scotts Valley. Exhibit 1 presents basic socioeconomic data on both the county and city level, as well as industry sector data for Santa Cruz County.
31. The City of Scotts Valley is largely a residential community serving those who work in the surrounding areas, including Silicon Valley. Of the approximately 97,000 housing units in Santa Cruz County, roughly 4,000 are in the City of Scotts Valley.<sup>19</sup> Home values in Scotts Valley are typical of those in Santa Cruz County as a whole and are above the county's median price of homes.<sup>20</sup> Average annual housing growth in the City of Scotts Valley was nearly triple that of the county between 1990 and 2000, while population growth in the city was about twice as fast as the county in the same time period.<sup>21</sup> Population projections for Santa Cruz County estimate 15 percent growth between 2000 and 2010.<sup>22</sup>

---

<sup>18</sup> Personal Communication, EPA hydrogeologist, EPA Region IX, April 6, 2001.

<sup>19</sup> State of California, Department of Finance, "City/County Population and Housing Estimates, 1991-2000, with 1990 Census Counts." Sacramento, California, May 2000 (<http://www.dof.ca.gov/html/Demograp/E-5text.htm>).

<sup>20</sup> Single family homes sales in Santa Cruz County reported to the local Multiple Listing Service between October 1, 2001 and March 31, 2001 reported a median price of \$495,000. The Santa Cruz community with the highest median price was Rio Del Mar (\$590,000). The City of Scotts Valley was the fifth highest community in the county at \$536,000 (source: Email Communication, Director of California Association of Realtors, April 5, 2001).

<sup>21</sup> State of California Department of Finance (<http://www.dof.ca.gov/html/Demograp/E-5text.htm>).

<sup>22</sup> State of California, Department of Finance, County Population Projections with Race/Ethnic Detail. Sacramento, California, December 1998. ([http://www.dof.ca.gov/html/Demograp/Proj\\_race.htm](http://www.dof.ca.gov/html/Demograp/Proj_race.htm)).

32. Land use in Scotts Valley is predominantly residential and commercial (e.g., retail) and the majority of open land has absorbed development. Active sand mining and dispersed logging activities occur within and adjacent to the city limits.<sup>23</sup>

---

<sup>23</sup> Personal Communication, County Planner, Santa Cruz County Planning Department, March 30, 2001.

**Exhibit 1****SOCIOECONOMIC CHARACTERISTICS OF SANTA CRUZ COUNTY, CALIFORNIA,  
AND THE CITY OF SCOTTS VALLEY**

	Santa Cruz County	City of Scotts Valley
Population of Santa Cruz County (1999)	245,201	10,698 <sup>a</sup>
Percent of State Population	0.7%	.03%
Percent Change in Population (1990-1999)	6.9%	20.8% <sup>b</sup>
Percent of Residents Living Below the Poverty Level (1990) <sup>c</sup>	9.4%	3.7%
Total Full and Part time Employment (1999)	140,900	6,753 <sup>d</sup>
Unemployment Rate (1999)	6.3%	3.1% <sup>e</sup>
<b>Industry</b>	<b>Full/Part Time Employment (1997)</b>	<b>Percent of County Total 1997</b>
Farming	10,193	7.3%
Agricultural Services	3,560	2.5%
Mining	163	0.1%
Construction	7,177	5.1%
Manufacturing	14,456	10.3%
Transportation/Utilities	4,038	2.9%
Wholesale Trade	5,169	3.7%
Retail Trade	24,965	17.8%
Finance/Insurance/Real Estate	8,758	6.2%
Services	44,375	31.7%
Government	17,247	12.3%

**Sources of County Information:**

California Employment Development Department, Labor Market Information (<http://www.calmis.ca.gov/htmlfile/county/monterey.htm>)

**Other Information:**

<sup>a</sup> Personnel Communication, City Manager, City of Scotts Valley, March 6, 2001.

<sup>b</sup> Ibid. (1990 population was 8,857, an increase of 1,841, or 20.8%.)

<sup>c</sup> 1990 Census of Population and Housing Summary Tape Files 3a. Percentages based on population for which poverty status was determined for Santa Cruz County (222,365) and City of Scotts Valley (8,344) from 1989.

<sup>d</sup> Personal Communication, City of Scotts Valley Community Development, March 6, 2001.

<sup>e</sup> 1999 employment from California Employment Development Department, Labor Market Information, Labor Force Data from Sub-county Areas (<http://www.calmis.ca.gov/FILE/LFHIST/00AASUB.TXT>).

## **2. FRAMEWORK, METHODOLOGY, AND IMPACTS**

### **2.1 Framework for Analysis**

33. As noted above, this economic analysis examines the impacts to specific land uses or activities within those areas designated as critical habitat for two plant species. Impacts include future effects associated with the listing of the species, as well as any effect of the designation above and beyond those associated with the listing or proposed listing. The listing of the Scotts Valley spineflower provides the most significant aspect of baseline protection because it makes it illegal for any person to: remove or reduce to possession the species from areas under Federal jurisdiction; maliciously damage or destroy the species on any such area; or remove, cut, dig up, or damage or destroy the plant species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a state criminal trespass law.<sup>24</sup> These restrictions will not be affected by critical habitat designation.
34. To quantify the increment of economic impacts attributable to the critical habitat designation for the two plants the analysis evaluates a "without critical habitat" scenario and compares it to a "with critical habitat" scenario. The "without critical habitat" scenario for analysis represents current and expected economic activity under all modifications prior to critical habitat designation, including protections already accorded the plants under Federal and state laws, such as the CEQA. The difference between the two scenarios represents the net change in economic activity attributable to the designation of critical habitat for the spineflower and the polygonum.

### **2.2 Methodological Approach**

35. The methodology consists of:
- Considering what specific activities take place or are expected to take place in the future within each unit of proposed critical habitat;
  - Identifying whether activities taking place on this land are likely to involve a Federal nexus;
  - Evaluating the likelihood that activities associated with identified Federal nexuses will result in consultations and, in turn, that consultations may lead to modifications of projects;

---

<sup>24</sup> As a candidate species, the baseline protection afforded the Scotts Valley polygonum is less than that provided for the listed Scotts Valley spineflower (see "Relevant Baseline Regulations" above).



- Attributing costs to any expected consultations and project modifications;
- Assessing the extent to which small businesses will incur costs as a result of modifications or delays to projects;
- Enumerating economic costs associated with public perceptions regarding the effect of critical habitat on the private land subject to the designation;
- Determining the portion of the identified costs attributable to the proposed critical habitat designation and not the listing of the robust spineflower;
- Establishing benefits of critical habitat designation.

## **2.3 Information Sources**

36. The methodology outlined above relies on input and information supplied by staff from California Association of Realtors, California Resource Agency, EPA's Region 9, U.S. Army Corps of Engineers, California's Department of Finance, City of Scotts Valley Planning Department, the Land Trust of Santa Cruz County, Santa Cruz County Department of Planning, City of Scotts Valley Community Development, and U.S. Fish and Wildlife staff at the Ventura Field Office.

## **2.4 Economic Impacts**

37. Economic impacts for the two units that make up the proposed critical habitat designations for spineflower and polygonum are described below.

### **2.4.1 Glenwood Unit**

38. Ownership of the Glenwood unit is divided among three private entities: the Scotts Valley Unified School District (SVUSD), the Salvation Army, and American Dream/Glenwood L.P. (a housing developer). In the discussion of the American Dream/Glenwood L.P. property, the entire 195 acres owned by this entity are discussed in the section called "American Dream Corporation," and then potential additional impacts for 1.5 acres of this property are discussed separately in the section called "American Dream Corporation Reserve Parcel."

### **Scotts Valley Unified School District (SVUSD)**

39. Within this unit, SVUSD owns and manages land adjacent to the Scotts Valley High School.<sup>25</sup> The nine-acre preserve is protected as part of an agreement with the Service following expansion of the school in 1999. Both spineflower and polygonum are found on the preserve and are referred to collectively as the "school district" colony. The preserve does not have any public access and is managed to allow natural regeneration. Because there are no foreseeable activities planned in the preserve area that would involve a Federal nexus, future Section 7 costs associated with this parcel are unlikely.<sup>26</sup>

### **Salvation Army**

40. Both polygonum and spineflower are found approximately one tenth of a mile to the west of the school district colony on a parcel of land owned by the Salvation Army. The 18 acres of proposed critical habitat includes steep hilly terrain and is part of a 154 acre parcel of land owned by the Salvation Army.<sup>27</sup>
41. Land use on the Salvation Army land within and adjacent to the proposed critical habitat includes recreational trails maintained by a nearby children's camp. The entire Salvation Army parcel (i.e., the 154-acre parcel, which includes the 18 acres of proposed critical habitat) is zoned as "mountain residential" which would permit a total of between 4 and 15 residential units. However, future residential development on the 18 acres being proposed for critical habitat is unlikely due to the steep terrain and the county's consideration of the "sensitive habitat" found in this

---

<sup>25</sup> Land owned by the school and used for recreational fields and administrative buildings has been excluded from the proposed critical habitat because it lacks the constituent elements. Federal Register February 15, 2001 (66 FR 10469).

<sup>26</sup> In 1999, during road construction activities conducted by the adjacent landowner, the Scotts Valley Water District (SVWD), a portion of the preserve (approximately 0.7 acres) was illegally accessed and spineflower and polygonum habitat was affected. Mitigation efforts by SVWD, conducted in compliance with CEQA, are on-going and may include habitat re-vegetation and installation of protective fencing to reduce unauthorized access to preserve lands (e.g., pedestrian, motorized vehicles and bicycles). Because there is no history of consultation with the Service and no Federal nexus to trigger future consultations, this analysis assumes that the costs of these actions are not attributable to the listed status of the spineflower or the proposed listing of the polygonum and result solely from CEQA. As a result, these costs are not included in this analysis.

<sup>27</sup> The Salvation Army Parcel is the only parcel proposed for critical habitat for polygonum and spineflower located within unincorporated Santa Cruz County and outside the City of Scotts Valley.

location.<sup>28</sup> If residential development were to be proposed and eventually approved by the county, a Federal nexus is uncertain. Thus, critical habitat designation for the spineflower and polygonum is unlikely to impose any costs above and beyond regulations required by the county.

42. A portion of this parcel (3.4 acres) had been the target of a proposed permanent conservation easement to be acquired by the SVWD as mitigation for damage done to spineflower and polygonum habitat on the adjacent preserve (see Scotts Valley Unified School District parcel above). It was the intention of the SVWD to acquire the development rights of the 3.4 acre parcel which includes known colonies of Scotts Valley spineflower and Scotts Valley polygonum. However, negotiations over the conservation easement, which was to be acquired by the SVWD and co-managed by the Land Trust of Santa Cruz County (LTSCC) and the California Department of Fish and Game (CDFG), have been stalled.<sup>29</sup> If the easement is eventually acquired by SVWD, 3.4 acres of the 18 acre Salvation Army unit would provide permanent protection from future development for both spineflower and polygonum. However, because negotiations over the conservation easement are not finalized, any protections afforded by the easement are not considered in this analysis.

#### **American Dream Corporation**

43. The remaining portion of proposed critical habitat in the Glenwood unit covers approximately 195 acres and includes a proposed residential development. The parcel was recently acquired by American Dream/Glenwood L.P. (American Dream) and currently exists as open space. The proposed development, which includes approximately 49 residential units on the east side of Glenwood Drive and a large area of designated open space to the north, is currently pending approval by the City of Scotts Valley Planning Department.<sup>30</sup> In the event of approval by the city, a Federal

---

<sup>28</sup> The Santa Cruz County Planning Department considers "sensitive habitat" in the permit approval process on a case-by-case basis. If a parcel of land is identified as sensitive habitat, it is possible that certain aspects of the proposed development would be redirected or restricted. Although Federally designated critical habitat may provide additional information to the county which may influence their interpretation of "sensitive habitat," there is not enough information on reasonably foreseeable land uses to predict the impact of critical habitat within this unit (Personal Communication, County Planner, Santa Cruz County Planning Department, May 8, 2001).

<sup>29</sup> Personal Communication, Director of Land Trust of Santa Cruz County, 23 March 2001. See also letter dated February 28, 2001 from the Law Offices of Robert M. Haight on behalf of the Scotts Valley Water District addressed to Juliet Virtue, Staff Counsel for the California Department of Fish and Game. The letter states that the conservation easement on Salvation Army land is "at an absolute stalemate."

<sup>30</sup> Information on proposed development project from City Planner, City of Scotts Valley Planning Department, March 2, 2001.

nexus with the Army Corps of Engineers (Army Corps) is likely to exist because the development proponent will most likely require a section 404 permit.<sup>31</sup>

44. The Army Corps asserts that in the absence of the proposed critical habitat, section 7 consultation with the Service on the American Dream project is unlikely due to the fact that both spineflower and polygonum are upland species that do not occupy the area within the Army Corps' jurisdiction. Under the proposed critical habitat scenario, however, the Army Corps is obligated to consult on all permitted activities that occur within critical habitat boundaries, regardless of whether the activities occur on lands occupied by the species.<sup>32</sup> Activity proposed by American Dream, according to a draft Environmental Impact Review in March 2000, "...provides for the avoidance and preservation of all occupied areas of Scotts Valley spineflower on the property by designating such areas as permanent open space."<sup>33</sup> Therefore, in the absence of critical habitat, it is unlikely the Army Corps would have consulted on the proposed development since activities requiring permitting would not have occurred in occupied areas. Because a section 7 consultation with the Service is likely to occur under the proposed critical habitat scenario and is unlikely to have occurred without critical habitat, the administrative costs and project modifications associated with the section 7 consultation can be attributed to the proposed critical habitat designation.
45. Administrative costs associated with a section 7 consultation on the Glenwood parcel will affect the Service, the Army Corps, and American Dream and likely include technical assistance calls, written correspondence, on-site visits, and a biological assessment. Based on similar consultations in the past regarding the impact of residential development on listed plant species,

---

<sup>31</sup> Potential nexus was confirmed by South Branch Chief, U.S. Army Corps of Engineers, San Francisco District Office, March 22, 2001 and Wildlife Biologist, Ventura Field Office, U.S. Fish and Wildlife Service, 23 April 2001. The existence of a Federal nexus will depend upon the exact location of development within the proposed critical habitat unit. The proposed residential development on the Glenwood unit has gone through a number of iterations. This analysis assumes that development will occur in a location within the proposed unit as to require a section 404 permit.

<sup>32</sup> Personal Communication, South Section Chief, U.S. Army Corps of Engineers, San Francisco District Office March 22, 2001. Army Corps personnel indicated that American Dream requested a jurisdictional delineation from the Corps in March 2000. Final plans regarding impact to lands under the Army Corps' jurisdiction, and subsequent need for a section 404 permit, has not been determined. This analysis assumes that a section 404 permit will be required and, therefore, a Federal nexus is present.

<sup>33</sup> Administrative Draft, Glenwood Specific Plan, Scotts Valley California, July 21, 2000.

administrative costs for all parties involved in the section 7 consultation over the Glenwood project are estimated to be approximately \$16,000.<sup>34</sup>

46. The consultation process, if required, could potentially lead to an adverse modification determination by the Service. Although such an outcome would be highly unlikely, if it were to occur, the developer could incur significant costs to implement the reasonable and prudent alternatives put forth by the Service. In such cases, however, the Service must ensure that any modifications are economically and technically feasible and can be implemented in a manner consistent with the basic design of the proposed project.<sup>35</sup>
47. It is likely that the developer could modify the project or take measures to protect the spineflower and the polygonum even without an adverse modification determination. Estimating the cost to the developer of implementing these alternatives suggested by the Service is difficult due to the uncertainty over the outcome of a future section 7 consultation. However, based on past efforts to protect sensitive plant species, these measures may include installation of fencing to protect existing colonies of spineflower and polygonum; continuation of current grazing practices to ensure containment of nonnative exotic species that threaten both spineflower and polygonum; and/or restriction of certain recreational uses (e.g., mountain biking, pet walking) to avoid disruption of normal propagation of the species.<sup>36</sup>
48. Because project modifications would result from a section 7 consultation attributable to the critical habitat designation, the cost of these measures would also be attributable to critical habitat designation.<sup>37</sup> To estimate the economic impact of project modifications, a range of potential costs associated with the installation of protective fencing around the five colonies found on the Glenwood

---

<sup>34</sup> Estimates of the cost of an individual consultation were developed from a review and analysis of historical section 7 files from a number of Service field offices around the country. These files addressed consultations conducted for both listings and critical habitat designations. Estimates take into consideration the level of effort of the Service, the Action agency, and the applicant during consultations. Section 7 consultation costs include the administrative costs associated with conducting the consultation, such as the cost of time spent in meetings, preparing letters, and the development of a biological assessment and biological opinion.

<sup>35</sup> U.S. Fish and Wildlife Service, *Final ESA Section 7 Consultation Handbook*, March 1998.

<sup>36</sup> Personal Communication, Wildlife Biologist, Ventura Field Office, U.S. Fish and Wildlife Service, 10 April 2001.

<sup>37</sup> It should be noted that the developer may be required to undertake such measures under CEQA. However, because the Section 7 consultation would also occur, regardless of CEQA requirements, the analysis attributes these costs to critical habitat designation.

property is considered. Actual costs may vary depending upon the future outcome of the section 7 consultation, but are likely to range from between \$11,000 to \$55,000.<sup>38</sup>

### **Impacts Associated with CEQA: American Dream Parcel**

49. As discussed in the "Relevant Baseline Regulations" section above, the designation of critical habitat alone does not require a lead agency to pursue any actions under CEQA. However, the designation of critical habitat for both spineflower and polygonum on land owned by American Dream includes areas that do not currently support the species. Thus, the designation of critical habitat may increase the knowledge about the range of the two plant species for project developers and Federal agencies and may result in some incremental activities and economic costs associated with CEQA. This analysis assumes that the lead agency will rely on the Service's determination of the range of the two plant species according to the proposed critical habitat and therefore prepare an EIR for sites on unoccupied land where the Service confirms the presence of all primary constituent elements.
50. As noted above, the Service has proposed critical habitat on the Glenwood unit on lands that are currently unoccupied by the species but possess the primary constituent elements because they feel these lands are essential for the discovery or establishment of new populations, continued growth of current populations, and the recovery of the species as a whole. This analysis makes the conservative assumption that the lead agency, in this case the Army Corps, will require an EIR for the American Dream parcel, and that the economic costs associated with the preparation of the EIR are fully attributable to critical habitat. To develop an estimate of the costs associated with preparing an EIR, this analysis considered the results of a mail survey and public comment on past economic analyses of critical habitat designation.<sup>39</sup> The administrative cost to the landowner of developing an EIR is likely to range from \$50,000 to \$200,000.

---

<sup>38</sup> The cost estimates for installing grazing fences are assumed to be approximately \$10,000 per perimeter mile and are designed to prevent trampling of plants by cattle. This assumption is likely to be consistent with the type of fencing required to discourage hikers and bikers from traversing sensitive habitat areas.

<sup>39</sup> The mail survey asked California respondents to estimate the total preparation cost of all EIRs completed in 1990. For the 188 respondents who answered the question, the average 1990 cost of an EIR was \$38,124. Adjusting for inflation, we assume that the incremental economic cost of each project that requires an EIR is approximately \$50,000 (see John D. Landis et al. *Fixing CEQA: Options and Opportunities for Reforming the California Environmental Quality Act (Brief)*, California Policy Research Center, University of California, November 1995). Public comment on past economic analyses considered the increased legal requirements of EIR documents since 1990.

51. Although the specific economic impacts associated with the proposed critical habitat on the Glenwood Unit may not appear to be large relative to the potential sale value of the proposed homes, there is evidence that the developer may have already been affected by the ecological significance of the parcel, *prior to the proposal for critical habitat*. This is most evident when considering the iterative nature of the development proposal and the existence of significant baseline regulations (i.e., county building approval, state environmental review, and the sensitive nature of the plant species found on the property). The amount of open space and conservation land included in the development proposal by American Dream is likely the result of compliance with these existing regulations.<sup>40</sup>

### **Potential Land Acquisition: American Dream Parcel**

52. If American Dream chooses not to move forward with the project (thus precluding a section 7 consultation) and chooses instead to sell the property, state monies have been approved for acquisition and conservation of the parcel.<sup>41</sup> Management of the parcel would be transferred to the LTSCC. Acquisition of the unit is uncertain, however, since American Dream is unwilling to sell the property unless a satisfactory development proposal is first approved by the city, thus providing a basis for appraising the parcel. If American Dream sells the property, then residential development would not occur and the boundaries of critical habitat would be congruent with the boundaries of the land protected by the LTSCC. In this scenario, the economic impacts attributable to the proposed critical habitat for the American Dream parcel would exclude the administrative and project modification costs discussed above. Instead, the endorsement of the parcel's conservation value may provide a positive public relations benefit to the LTSCC, who would assume responsibility for maintaining the parcel.

### **American Dream Corporation Reserve Parcel**

53. As part of the existing proposal for the construction of 49 residential units on the Glenwood parcel, American Dream may "gift" a small portion of the land to the City of Scotts Valley that will

---

<sup>40</sup> Approximately 95 percent of land owned by American Dream within the Glenwood unit, is preserved as open space.

<sup>41</sup> Proposition 12 was approved by California voters in March of 2000, and allows for sale of \$2.1 billion in state bonds to finance land protection efforts by state and regional agencies, and land conservancies. The proposition requires that all funds must be appropriated by the state legislature through the budget process. The bill specifically authorizes \$5 million to the city of Scotts Valley for acquisition of the Glenwood Unit (<http://www.pcl.org/bonds/countyfunding/santacruz.html>). Additional matching funds for acquisition of the unit may be available through private organizations (Personal communication, City planner, City of Scotts Valley Planning Department, March 2, 2001).

retain future development potential.<sup>42</sup> This 1.5 acre "reserve parcel" would not be part of the nearly 185 acres of open space designation included in American Dream's proposal. The purpose of this reserve parcel is to provide the city with additional social and economic benefits (e.g., revenue) as a result of the American Dream development by permitting small scale residential development (e.g., 4 to 5 units) at some point in the future.<sup>43</sup> City revenue from the development may be used toward construction of a city park.<sup>44</sup>

54. Economic impacts associated with critical habitat designation and resulting from the future development of the reserve parcel is dependent on the existence of a Federal nexus. A Federal nexus with the Army Corps for development of the reserve parcel hinges on whether the future (unknown) developer will utilize existing roads or will develop a new road to access the site. If the developer chooses to use the existing road, a section 404 permit is unlikely to be required. If, however, development plans include a bridge to cross the creek adjacent to the parcel's boundary, it is likely the developer will request a section 404 permit.<sup>45</sup> This analysis assumes that a section 404 permit will be needed and a Federal nexus with the Army Corps will be present.
55. The Army Corps asserts that in the absence of the proposed critical habitat, section 7 consultation with the Service is unlikely due to the fact that both spineflower and polygonum are upland species that do not occupy the area within the Army Corps' jurisdiction. Therefore, if a Federal nexus with the Army Corp were to result in a section 7 consultation covering development on the reserve parcel, the costs would be attributable to the proposed critical habitat designation. While the issues addressed in this consultation would be similar to those addressed in the 49-unit parcel consultation, the administrative costs are likely to be significantly smaller. Total administrative costs of a future section 7 consultation covering the reserve parcel are estimated to be approximately \$4,000.<sup>46</sup>

---

<sup>42</sup> Personal Communication, City Planner, City of Scotts Valley, April 5, 2001.

<sup>43</sup> Note that no agreement regarding the reserve parcel currently exists between the City of Scotts Valley and the developer, American Dream.

<sup>44</sup> Alternatively, the State of California may provide permanent protection for the reserve parcel through acquisition, thus providing the City of Scotts Valley with an alternative source of revenue for the city park. An agreement between the city and the State have not be finalized. City Planner, City of Scotts Valley Planning Department, March 2, 2001.

<sup>45</sup> Personal Communication, City Planner, City of Scotts Valley, 23 April 2001.

<sup>46</sup> See footnote 34.



### **Impacts Associated with CEQA: Reserve Parcel**

56. The economic impacts to the reserve parcel resulting from CEQA regulations are likely to be similar to those discussed above for the American Dream parcel. Most of the mitigation activities and biological surveying concerning both the spineflower and polygonum are likely to have been covered in the EIR developed by American Dream on the adjacent parcel. As a result, administrative costs for the reserve parcel are likely to be a small percentage of the costs of the American Dream EIR. The costs associated with CEQA on this reserve parcel are estimated to be approximately two percent of the CEQA cost estimate for the entire American dream parcel, or approximately \$1,000 to \$4,000.<sup>47</sup>

#### **2.4.2 Polo Ranch Unit**

57. The Polo Ranch unit was recently acquired by the development proponent, Greystone Homes. Proposed residential development on the unit is currently pending approval by the City of Scotts Valley Planning Department. The most recent proposal includes approximately 27 single-family detached homes clustered around open space.<sup>48</sup> If the development is approved by the city, a Federal nexus with the Army Corps is likely because the development proposal will likely require a section 404 permit.<sup>49</sup>
58. The Army Corps asserts that in the absence of the proposed critical habitat, section 7 consultation with the Service is unlikely due to the fact that both spineflower and polygonum are upland species that do not occupy the area within the Army Corps' jurisdiction. Under the proposed

---

<sup>47</sup> It is likely that the costs associated with an EIR under CEQA for the reserve parcel will be lower than for the entire American Dream parcel, because a portion of the biological surveying and mitigation activities required by the EIR will have been covered by the CEQA review of the American Dream development. The area of reserve parcel (1.5 acres) is less than one percent of the area of the entire American Dream parcel (195 acres). Because the costs of CEQA for these two parcels may not be exactly proportional to their relative areas, the percent area of the reserve parcel relative to the larger parcel is doubled to create a conservative estimate. As a result, CEQA costs at the reserve parcel are estimated to be two percent of the costs for the larger parcel.

<sup>48</sup> Information on proposed development project from City Planner, City of Scotts Valley Planning Department, 2 March 2001.

<sup>49</sup> Potential nexus was confirmed by South Branch Chief, U.S. Army Corps of Engineers, San Francisco District Office, 22 March 2001. The existence of a Federal Nexus will depend upon the exact location of development within the proposed critical habitat unit. The Polo Ranch proposed residential development has gone through a number of iterations. This analysis assumes that development will occur in a location within the proposed unit as to require a section 404 permit.

critical habitat scenario, however, the Army Corps is obligated to consult on all permitted activities that occur within critical habitat boundaries, regardless of whether the activities occur on lands occupied by the species.<sup>50</sup> In the absence of critical habitat, it is unlikely the Army Corps would have consulted on the proposed development since activities requiring permitting would not have occurred in occupied areas. Since a section 7 consultation with the Service is likely to occur under the proposed critical habitat scenario and is unlikely to have occurred in the without critical habitat, the administrative costs and project modifications associated with the section 7 consultation are attributable to the proposed critical habitat designation.

59. Administrative costs associated with a section 7 consultation on the Polo Ranch parcel will affect the Service, the Army Corps, and Greystone Homes and likely include technical assistance calls, written correspondence, on-site visits, and a biological assessment. Because of the limited distribution of spineflower and polygonum, and the biological significance of the colonies found on the Polo Ranch site, the Service advises that a section 7 consultation regarding development at this unit would likely be time-consuming.<sup>51</sup> Therefore, the cost estimates for the Polo Ranch unit reflect the likelihood of a complex consultation effort between the Army Corps and the Service.<sup>52</sup> Administrative costs for a future section 7 consultation are estimated to be approximately \$19,500 dollars.<sup>53</sup>
60. The consultation process, if required, could potentially lead to an adverse modification determination by the Service. Although such an outcome would be highly unlikely, if it were to occur, the developer could incur significant costs to implement the reasonable and prudent alternatives put forth by the Service. In such cases, however, the Service must ensure that any modifications are economically and technically feasible and can be implemented in a manner consistent with the basic design of the proposed project.<sup>54</sup>

---

<sup>50</sup> Personal Communication, South Section Chief, U.S. Army Corps of Engineers, San Francisco District Office March 22, 2001. Army Corps personnel indicated that Greystone Homes requested a jurisdictional delineation from the Corps in March 2000.

<sup>51</sup> Personal Communication, Assistant Field Supervisor, U.S. Fish and Wildlife Office, Ventura Field Office, 22 March 2001.

<sup>52</sup> Note that a formal section 7 consultation must be completed in 135 days. This analysis assumes the consultation over Polo Ranch will not exceed this limit.

<sup>53</sup> See footnote 34.

<sup>54</sup> U.S. Fish and Wildlife Service, *Final ESA Section 7 Consultation Handbook*, March 1998.

61. It is likely that the developer could modify the project or take measures to protect the spineflower and the polygonum even without an adverse modification determination. Estimating the cost to the developer of implementing these alternatives suggested by the Service is difficult due to the uncertainty over the outcome of a future section 7 consultation. However, based on past efforts to protect sensitive plant species, these measures may include, installation of fencing to protect existing colonies of spineflower and polygonum; continuation of current grazing practices to ensure containment of nonnative exotic species that threaten both spineflower and polygonum; and/or restriction of certain recreational uses (e.g., mountain biking, pet walking) to avoid disruption of normal propagation of the species.<sup>55</sup>
62. Because project modifications would result from an incremental section 7 consultation attributable to the critical habitat designation, the cost of these measures would also be attributable to critical habitat designation. The range of estimates for the cost of fence installation are similar to those discussed in the Glenwood parcel, but are slightly higher due to the fact that occupied areas (e.g., clusters) on the Polo Ranch unit includes one additional plant colony. Actual costs may vary depending upon the future outcome of the section 7 consultation, but are likely to range from between \$13,000 to \$68,000.<sup>56</sup>

#### **Impacts Associated with CEQA: Polo Ranch**

63. The economic impacts to the Polo Ranch parcel resulting from CEQA regulations are likely to be similar to those discussed above for both the American Dream and reserve parcels. Administrative costs associated with the potential incremental EIR to the landowner is likely to range from \$50,000 to \$200,000.<sup>57</sup>
64. Although the specific economic impacts associated with the proposed critical habitat on the Polo Ranch unit may not appear to be large relative to the potential value of the proposed development, there is evidence that Greystone Homes may have already been affected by the ecological significance of the parcel, *prior to the proposal for critical habitat*. This is most evident when considering the iterative nature of the development proposal and the existence of significant baseline regulations (i.e., county building approval, state environmental review, and the sensitive nature of the plant species found on the property). For example, Greystone Homes has worked with

---

<sup>55</sup> Personal Communication, Wildlife Biologist, Ventura Field Office, U.S. Fish and Wildlife Service, 10 April 2001.

<sup>56</sup> See footnote 38.

<sup>57</sup> See footnote 39.

the Service prior to the critical habitat designation to avoid fragmentation of habitat for the listed spineflower.<sup>58</sup>

## 2.5 Summary of Impacts

65. Exhibit 2 summarizes the high end economic impacts potentially resulting from critical habitat designation. Economic impacts associated with the proposed critical habitat designation for spineflower and polygonum are likely to occur on both the Glenwood and Polo Ranch units as a result of similar pending residential development proposals. Without critical habitat, economic impacts would likely be avoided because the Army Corps is unlikely to have consulted with the Service in connection with section 404 permitting activities that do not directly impact upland species. However, under the proposed designation, the Army Corps interprets any section 404 permitting activities occurring within critical habitat boundaries as a "trigger" for section 7 consultations regardless of whether the species occupies their jurisdictional areas. In addition, EIR documents required under CEQA are likely to occur as a result of the proposed critical habitat due to the increased knowledge about the range of the two plant species. Total costs associated with the proposed designation of critical habitat for the Scotts Valley spineflower and polygonum is expected to be less than 600 million dollars.

66. It should be emphasized that the range of estimates presented in Exhibit 2 is considered to be the high-end estimate of the economic impact of the proposed designation, because the analysis includes a number of assumptions about the likelihood of future section 7 consultations, EIR development, and the costs involved in project modifications. Actual impacts for both the Glenwood and Polo Ranch units may be much lower if the high end assumptions do not hold true. These assumptions are as follows.

- **A Federal nexus exists for all development proposals.** This analysis assumes that a Federal nexus will exist with the Army Corps. It is possible that the three development proponents (i.e., Greystone Homes, American Dream, and the City of Scotts Valley) may re-design their proposals to avoid impact to section 404 resources and therefore preclude a Federal nexus.
- **City officials grant regulatory approval for proposed development plans.** The analysis also assumes that baseline regulatory approval for all three future developments will be forthcoming from the City of Scotts Valley. It is possible that the City of Scotts Valley Planning Department may deny building permits, thus eliminating the need for a section 7 consultation, EIR development, and project modifications. If the city does not approve the development plans, costs to the

---

<sup>58</sup> Personal Communication, City Planner, City of Scotts Valley Planning Department, March 2, 2001.

developer (e.g., opportunity costs) are not included in this analysis, because the costs are incurred at the discretion of the city and are not required by the Act.

- **Project modifications will be required.** The analysis assumes that the section 7 consultations will result in the installation of fencing to protect spineflower. It is possible that "reasonable and prudent alternatives" may not be suggested by the Service or implemented by the developer(s).
- **The "reserve parcel" will be gifted to the city and developed.** The analysis assumes that the proposal for a "reserve parcel" is voted and accepted by the City Council. It is possible that this proposal may not be implemented, in which case the administrative costs associated with a section 7 consultation and the development of an EIR will not be incurred by the developer. In addition, even if the parcel is given to the city, officials may, in turn, sell it to the State of California for permanent conservation, eliminating the need for additional administrative costs associated with development.
- **CEQA costs are the same for all parcels.** The analysis assumes that CEQA costs for an incremental consultation on the reserve parcel are likely to be as high as those costs associated with the residential development projects on the Polo Ranch and American Dream parcels. It is possible that the costs associated with an incremental EIR under CEQA for the reserve parcel will be lower because a portion of the biological surveying and mitigation activities required by the EIR likely will have been covered by the CEQA review of the adjacent American Dream development.
- **The American Dream Corporation parcel is not sold to the state.** This analysis assumes that American Dream Corporation will move forward with development plans. As discussed earlier, potential exists for the parcel to be sold to the State of California. A state voter referendum has already been approved that permits the sale of state bonds to finance land acquisition. In order for this to occur, however, American Dream must be willing to sell the property, and private community-based groups or other organizations must secure additional funding to match the parcel's (unknown) market value. If this sale were to occur, the estimated costs associated with the Glenwood unit outlined above would no longer apply, as the parcel would provide permanent protection for the spineflower and preclude future development on the site.

67. If one or more of these assumptions prove to be incorrect, the estimated impacts associated with critical habitat designation may be substantially lower than the high end estimate of \$164,500 to \$566,500. For example, if the American Dream Corporation sells its property to the State of California, estimated impacts are reduced to \$82,500 to \$287,500. The section 7 impacts predicted for the Polo Ranch Unit may be avoided if Greystone homes avoids building in areas which require

a Section 404 permit from the Army Corps, thus avoiding a Federal nexus. Therefore, the actual costs of the proposed critical habitat are likely to be less than the high end estimate.

68. It should also be noted that while the specific economic impacts associated with the proposed critical habitat as outlined in this report may not appear to be large relevant to the potential value of the land, there is evidence that the developers may have already borne certain costs associated with the ecological significance of both the Glenwood and Polo Ranch units, *prior to the proposal for critical habitat*. The extent of open space land included in the Glenwood proposal as well as Greystone Homes' interaction with the Service regarding development alternatives, represent economic impacts as a result of a time-consuming and iterative process of complying with state and local regulations.
69. Exhibit 2 summarizes the expected administrative and project modifications costs resulting from incremental section 7 consultations for the Scott Valley spineflower.

**Exhibit 2**

**SUMMARY OF POTENTIAL ECONOMIC IMPACTS WITHIN PROPOSED  
CRITICAL HABITAT FOR THE SCOTTS VALLEY SPINEFLOWER AND SCOTTS VALLEY POLYGONUM  
FROM 2001 TO 2010**

<b>Critical Habitat Unit</b>	<b>Potentially Affected Party</b>	<b>Potentially Affected Activity</b>	<b>Estimated Costs to Party <sup>b</sup></b>	<b>Costs Due to Critical Habitat <sup>a</sup></b>
Glenwood Unit	Scotts Valley Unified School District	Preserve	None	None
	Salvation Army	Future residential development uncertain	None	None
	American Dream/ Glenwood L.P. <sup>c</sup>	Development proposal for single-family detached homes with open space	\$77,000 to \$271,000	\$77,000 to \$271,000
	City of Scotts Valley <sup>c,d</sup>	Potential future residential development	\$5,000 to \$8,000	\$5,000 to \$8,000
Polo Ranch Unit	Greystone Homes <sup>c</sup>	Development proposal for single-family detached homes with open space	\$82,500 to \$287,500	\$82,500 to \$287,500

<sup>a</sup> All future effects are due to critical habitat; the analysis does not assume any listing effects.

<sup>b</sup> Administrative costs for the landowner include the cost of a biological assessment required under the Act and the cost of an EIR required under CEQA. Administrative costs for the Service and the Army Corps include hours involved in coordinating the section 7 consultation.

<sup>c</sup> Includes costs to the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers associated with the section 7 consultation.

<sup>d</sup> The 1.5 acre reserve parcel is part of the 195 acre development site owned by American Dream.

## 2.6 **Potential Impacts to Small Businesses**

70. Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions).<sup>59</sup> However, no regulatory flexibility analysis is required if the head of an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities.
71. Residential development on private land constitutes the only commercial activity that could take place within the area of proposed critical habitat. Estimating this impact on small entities is difficult due to the uncertainty of future development plans and potential land sales and the lack of information about the size of the development companies. As a result, the analysis assumes that the three potentially affected parties (American Dream/Glenwood L.P., Greystone Homes, and the City of Scotts Valley) could be small entities.
72. Critical habitat designation on both the Glenwood and Polo Ranch unit could lead to an additional consultation and project modifications. To develop a high end estimate of impacts associated with critical habitat, it is assumed that all of the proposed development plans under consideration by these three parties are implemented. Assuming that the unit value of the homes built by these entities is equal to the median value of a single-family home in Scotts Valley of \$536,000, and that a total of 80 homes are built on the affected parcels, the potential value of the development projects would be \$43 million.<sup>60</sup> Because the impacts cited in this report are relatively low overall compared to the potential value of the new homes, it is unlikely that impacts on small businesses will be significant. As noted above, the Service must ensure that any required modifications are economically and technically feasible and can be implemented in a manner consistent with the basic design of the proposed project.<sup>61</sup>

---

<sup>59</sup> 5 U.S.C. 601 et. seq.

<sup>60</sup> The assumption that 80 homes are built includes 49 units on the American Dream parcel, four units on the American Dream reserve parcel, and 27 units on the Polo Ranch parcel.

<sup>61</sup> U.S. Fish and Wildlife Service, *Final ESA Section 7 Consultation Handbook*, March 1998.



## **2.7 Potential Impacts Associated with Project Delays and Property Values**

73. It is possible that critical habitat designation could lead to reductions in the property values on both units. Reductions could occur if the perception exists that designation will limit the ability of parties to develop land. Reduction could be temporary or permanent, depending upon whether the designation will, in fact, restrict land uses or lead to increased costs. A temporary decline in property value, if it occurs, would last until uncertainty regarding the effects of the designation is resolved (e.g., the proposed development plans are approved). At this time, sufficient information is not available to estimate accurately the extent of temporary or permanent reductions in the value of the privately held land within the proposed critical habitat. It is also difficult to separate the effect of baseline regulations (i.e., plan approval by the City of Scotts Valley) and the effect of critical habitat designation on property values. Casual evidence, however, suggests that significant impacts are unlikely.

## **2.8 Benefits**

74. To determine the benefits of the critical habitat designation of the Scotts Valley spineflower and polygonum, this report considers those categories of benefit that will be enhanced as a result of the listing of the species and the proposed critical habitat designation.
75. The primary goal of listing a species as endangered is to preserve the species from extinction. However, various economic benefits, measured in terms of enhanced national social welfare, result from species preservation as well. National social welfare values reflect both use and non-use (i.e., existence) values, and can reflect various categories of value. For example, use values might include the opportunity to see a spineflower or polygonum while on a hike, or the recreational use of habitat area preserved as a result of the plants. Existence values are not derived from direct use of the species, but instead reflect the satisfaction and utility people derive from the knowledge that a species exists.
76. The following examples represent benefits derived from the listing of the spineflower and the proposed listing of the polygonum and, potentially, critical habitat:
- **Ecosystem health.** Absent the plants, other natural organisms may suffer. Actions to protect the spineflower and polygonum may also benefit other organisms. Each one of these organisms may provide some level of direct or indirect benefit to people.
  - **Real estate value effects.** Real estate values may be enhanced by critical habitat designation. For example, such enhancement may occur if open space is preserved or if allowable densities are reduced or kept at current levels as a result of critical habitat designation.

- **Flood control.** Preserving natural environments can also reduce FEMA and county expenditure on bank stabilization and other flood control programs.

77. Specific benefits may accrue to the LTSCC if the Glenwood unit is acquired by the State of California and managed by the land trust. This scenario is contingent upon American Dream's decision to forego development rights (and avoid a section 7 consultation) and willingly sell the property to the State. Under this scenario, the LTSCC is likely to receive a public relations benefit as a result of the proposed critical habitat designation. To the extent the organization strives to protect "lands of significant natural resource, agricultural, open space and cultural value" the proposed critical habitat will provide public endorsement of their goals. This economic benefit will not exist if the Glenwood site is developed as currently proposed.
78. The benefits identified above arise primarily from the protection afforded to species under the Federal listing. Critical habitat designation may provide some incremental benefits beyond the listing benefits. Critical habitat designation provides some educational benefit by increasing awareness of the extent of spineflower and polygonum habitat. Incremental surveys, consultations, and project modifications conducted as a result of the designation of critical habitat are likely to increase the probability that the spineflower and polygonum will recover. Critical habitat also provides a legal definition of the extent of species' habitat. This reduces the amount of uncertainty Federal agencies face when determining if a section 7 consultation is necessary for an activity with a Federal nexus.
79. The quantification of total economic benefits attributable to the designation of critical habitat is, at best, difficult. Without knowing the exact nature of future consultations and associated project modifications, it is difficult to predict the incremental increase in the probability that the spineflower and polygonum will recover as a result of critical habitat designation. A single project modification associated with the designation of critical habitat has the potential to protect the spineflower and polygonum. While such a scenario is unlikely, such a hypothetical project modification would bear the entire economic value of the listing of the species as mentioned above. Alternatively, additional consultations attributable to the designation of critical habitat may not in any way increase the probability of recovery for the species. In this case, the incremental benefits of designating critical habitat for the spineflower and polygonum would be limited to the educational benefits, increased support for existing conservation efforts, and reduced uncertainty regarding the extent of spineflower and polygonum habitat. In all likelihood, the actual benefits of the designation of critical habitat for the spineflower and polygonum will lie in between the benefits presented in these extreme examples.

## REFERENCES

Administrative Draft. July 21, 2000. Glenwood Specific Plan, Scotts Valley California.

Biotic Resources Group. August 23, 1999. "Conceptual Habitat Mitigation Strategy, Recycled Water Distribution System."

California Resources Agency. 12 November 1998. "Summary and Overview of the California Environmental Quality Act." [http://ceres.ca.gov/topic/env\\_law/ceqa/summary.htm](http://ceres.ca.gov/topic/env_law/ceqa/summary.htm). Census of Population and Housing Summary Tape Files 3a. 1990.

Economic Analysis of Federal Regulations Under Executive Order 12866, January 11, 1996 (<http://www.whitehouse.gov/omb/inforeg/riaguide.html>).

"Endangered and Threatened Wildlife and Plants; Propose Endangered Status for *Polygonum hickmanii* (Scotts Valley Polygonum)." Federal Register November 9, 2000 (65 FR 67335).

"Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for *Polygonum hickmanii* (Scotts Valley Polygonum) and *Chorizanthe robusta* var. *hartwegii* (Scotts Valley Spineflower)." Federal Register February 15, 2001 (66 FR 10469).

Landis, John D. et al. November 1995. *Fixing CEQA: Options and Opportunities for Reforming the California Environmental Quality Act (Brief)*, California Policy Research Center, University of California.

Safe Neighborhood parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (Villaraigosa-Keeley Act). <http://www.pcl.org/bonds/12main.html>.

State of California, Department of Finance. December 1998. County Population Projections with Race/Ethnic Detail. Sacramento, California. [http://www.dof.ca.gov/html/Demograp/Proj\\_race.htm](http://www.dof.ca.gov/html/Demograp/Proj_race.htm).

State of California, Department of Finance. May 2000. "City/County Population and Housing Estimates, 1991-2000, with 1990 Census Counts." Sacramento, California. <http://www.dof.ca.gov/html/Demograp/E-5text.htm>.

State of California, Employment Development Department. 1999. Labor Market Information, Labor Force Data from Sub-county Areas. <http://www.calmis.ca.gov/FILE/LFHIST/00AASUB.TXT>.

State of California, Proposition 12. March 2000. <http://www.pcl.org/bonds/countyfunding/santacruz.html>.

U.S. Environmental Protection Agency. Office of Ground Water and Drinking Water. Region IX. website (<http://www.epa.gov/safewater/swp/ssa/reg9.html>).

U.S. Environmental Protection Agency. Region IX. April 6, 2001. "Fact Sheet: The EPA's Sole Source Aquifer Program." Facsimile Communication.

U.S. Fish and Wildlife Service. Endangered Species Bulletin. November/December 1999 Vol XXIV, No. 6.

U.S. Fish and Wildlife Service. Ventura Office. "Recovery Plan for Insect and Plant Taxa from the Santa Cruz Mountains in California." Signed September 28, 1998.

U.S. Fish and Wildlife Service. March 1998. *Final ESA Section 7 Consultation Handbook*.